IN THE UNITED STATES DISTRICT COURT
FOR THE NORTHERN DISTRICT OF TEXAS
DALLAS DIVISION

GENERAL ELECTRIC COMPANY,

Plaintiff,

v.

MITSUBISHI HEAVY INDUSTRIES, LTD., and MITSUBISHI POWER SYSTEMS AMERICAS, INC.,

Defendants.

CIVIL ACTION NO.
3:10-CV-276-F

RESPONSIVE CLAIM CONSTRUCTION BRIEF OF MITSUBISHI HEAVY INDUSTRIES, LTD., AND MITSUBISHI POWER SYSTEMS AMERICAS, INC.

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I. INTRODUCTION

GE's proposed claim constructions do little more than paraphrase the disputed claim terms, leaving ambiguities in the **scope** of the claims that must be resolved when infringement and validity are assessed. GE's claim construction brief does nothing to cure the ambiguities in the scope of the claims. And by failing to explain the contexts in which the claims were obtained and are now asserted, GE does nothing to assist the Court in understanding the invention or the ultimate issues. Indeed, GE pays little attention to its own proposed constructions, choosing instead to construct straw-man arguments against Mitsubishi's proposed constructions that represent neither Mitsubishi's positions nor GE's own patents. Mitsubishi's proposed constructions best address the parties' disputes about the claim **scope**, best reflect the **context** in which the claims were obtained and are now asserted, and best resolve the disputed terms in light of the **intrinsic record** of the asserted patents.

II. THE '055 PATENT

A. The Intrinsic Evidence Does Not Support GE's Construction

Mitsubishi and GE dispute the proper construction of the "connection point" recited in claim 1 of the '055 patent. GE suggests that this point of connection can be recast as an "area of contact," adding ambiguity to the claim. Neither the language of claim 1, nor any other intrinsic evidence, supports GE's proposed construction. Instead, as recognized by Mitsubishi, the intrinsic evidence makes clear that the claimed "connection point" refers to the point where the upper and lower parts of the base frame are joined together.

1. GE Offers No Evidence to Suggest Substituting the Term "Contact" for the Claimed "Connection"

GE admits that the claimed connection point addresses "the connection between the upper and lower parts of the base frame." GE Br. 24. Nonetheless, GE proposes to eliminate

this requirement from the claim, substituting the claimed "connection" with "contact" between parts of the base frame. GE identifies no evidence that supports distorting the meaning of the claimed "connection" in such a manner. No such evidence exists. Instead, the claims, specification, and prosecution history all indicate that the "connection point" **must** be for "connection." Accordingly, because GE's proposed construction contradicts the clear intrinsic evidence and has no support, it should be rejected. *See, e.g., Curtiss-Wright Flow Control Corp. v. Velan, Inc.*, 438 F.3d 1374, 1379-80 (Fed. Cir. 2006) (rejecting claim construction that "finds no support in the overall context of the . . . patent specification").

The claim language itself recites a "connection" on two occasions. First, claim 1 defines the connection point as the location where the lower part of the base frame is "attachably joined with the upper part [of the base frame]." Second, claim 1 requires the connection point to exhibit a particular shape—a cross-section that is elongated in one dimension. Rewriting the "connection point" to mean an "area of contact" would greatly expand this second recitation. In particular, GE's construction would allow GE to read the claimed elongated cross-section on any cross-section where the two parts of the base frame touch, not just the cross-section where they are joined together. The plain language of the claim, however, limits the claimed cross-section to a point of "connection," indicating that joinder is required. *See, Bicon, Inc. v. Straumann Co.*, 441 F.3d 945, 950-51 (Fed. Cir. 2006) ("[C]laims are interpreted with an eye toward giving effect to all terms in the claim."). The claims do not refer to "contact" between parts of the base frame, and nothing in the claims suggests that an area of "contact" may be substituted for the claimed "connection" point.

Similarly, nothing in the specification suggests that contact between two components can be substituted for the claimed connection. The word "contact" appears nowhere in the

'055 patent. Instead, the specification teaches the benefits of bolting a two-piece base frame together at a "connection" point to form a wind turbine support structure. '055 patent, col. 5:34-44. Figure 4 of the patent illustrates the shape of the connection point by referring to the flanges through which these bolts pass. *Id.* The patent's abstract echoes this teaching, explaining that the parts of the base frame are "screwed tight onto each other at their connection point." *Id.* at Abstract. Thus, the specification consistently teaches that the connection point is the location where the base frame is actually joined together, not merely where parts are in contact.

The '055 patent's prosecution history further confirms that the two parts recited in claim 1 must be joined together, not merely in contact, at the specially shaped connection point. During prosecution, GE specifically amended claim 1 to recite that the two parts of the base frame are "attachably joined" at the connection point. (Mit. Resp. App. at 2.) GE then relied on this amendment, arguing that the Partmann prior art reference did not disclose "a connection point where the upper part of the frame attachably joins to the lower part of that frame." (Mit. Resp. App. at 8.) Thus, through the amendment and arguments it made to the Patent Office, GE represented that the claimed connection point must be a location where the parts of the base frame are connected together, not merely an area of contact as GE now suggests. Nothing in the prosecution history supports GE's proposed substitution of "contact" into claim 1.

As is clear from the foregoing, the intrinsic evidence consistently and without exception describes its "connection point" in terms of "connection." GE has not cited—because it cannot—a single piece of evidence to support eliminating the "connection" requirement. Rather, GE invites the Court to adopt an erroneous construction. *See Curtiss-Wright*, 438 F.3d at 1379. In *Curtiss-Wright*, the court was presented with the term "adjustable" as used in a claimed system. *Id.* The intrinsic evidence consistently described adjustment as occurring **during**

operation, extolled the benefits of such a feature, and described that feature's importance to the invention. *Id.* But the patentee urged a broader construction to allow adjustment **at any time**. *Id.* The district court adopted this construction, but the Federal Circuit reversed because the district court's construction found no support in the context of the patent. *Id.* at 1380.

In the present case, GE advocates replacing the word "connection" with "contact," but as in *Curtiss-Wright*, there is no intrinsic evidence to support such a change. The '055 patent consistently and without exception describes the connection point in terms of connection. In fact, as in *Curtiss-Wright*, the '055 patent extols the virtues of its "connection," proclaiming it to be how its "purpose is achieved." '055 patent, col. 1:41-45. In light of the clear intrinsic evidence that "connection" is required, GE's unsupported substitution of "contact" must be rejected.

2. No Intrinsic Evidence Suggests Substituting the Term "Area" for the Claimed "Connection Point"

Contrary to the arguments on pages 23 and 24 of GE's brief, the claim language and specification do not suggest replacing the claimed connection "point" with the vague "area" of contact proposed by GE. The specification and claims of the '055 patent refer separately and distinctly to a "connection point" and a general "area" in describing the wind turbine. Neither the specification nor the claims suggest, however, that the connection "point" is an "area" or that these terms are interchangeable. To the contrary, the specification and claims consistently refer to the claimed connection point as a "point," not an area.

The specification does not describe the connection point as an "area of contact." Rather, as explained at pages 16-17 of Mitsubishi's opening brief, the specification uses the term "area" to connote a loose sense of proximity, but reserves the term "connection point" to describe the location where the upper part of the base frame is joined to the lower part of the base frame.

'055 patent, col. 1:7-14, 6:8-12. The claims similarly recite a connection point, again specifying that it is where the upper and lower parts of the base frame are "attachably joined." The claims also recite the shape of the connection point, specifying that it has a particular cross-section (claim 1) and may extend in a plane (claim 3), as described in the specification. This language does **not**, however, suggest that the loosely defined term "area" can be substituted for the claimed "point."

GE relies on Figure 4 of the '055 patent to argue that the claimed "connection point" must be construed to be an "area." The specification and claims of the '055 patent, however, consistently refer to the connection point illustrated in this figure as a "point," not an area. Indeed, the patent teaches that "FIG. 4 [is] a view of a **connection point** between a lower and an upper part of a hollow body of the base frame" and that "FIG. 4 shows the contour of the **connection point** 15." *Id.* at col. 4:11-13, 5:20 (emphases added). While the connection point illustrated in Figure 4 may "lie in a plane," the specification does not refer to the connection point as an "area."

GE notes that claim 4 recites a "flange that is essentially radial in relation to the tower axis in the area of the connection point." GE Br. 23. This recitation does not, however, suggest that the connection point itself is an area. Rather, consistent with the specification, claim 4 uses the phrase "in the area" to refer to a general proximity, indicating that the flange is located near the connection point. '055 patent, claim 4, col. 2:36-40 ("[E]ach of the two parts have, in the **area** of the **connection point**, **a flange . . . .**" (emphases added)). Claim 4 separately recites the flange, the area, and the connection point, suggesting that each represents distinct structure. MHI Br. [Dkt. 86] 9; *Unique Concepts, Inc. v. Brown*, 939 F.2d 1558, 1562 (Fed. Cir. 1991) (applying the "oft-quoted 'all elements rule'"). In *Unique Concepts*, the claim recited a frame

with both "linear border pieces" and "right angle corner border pieces." 939 F.2d at 1562. According to the patentee, the "linear border pieces" could **form** the "right angle corner pieces." *Id.* at 1561-62. The Federal Circuit rejected the patentee's argument "for merging the two types of claim elements into one," because under that argument "the recitation of both types of pieces is redundant." *Id.* at 1562. GE, in seeking to define "connection point" as an "area," seeks to merge two types of claim elements into one, just like the patentee in *Unique Concepts*. That effort cannot succeed.

By substituting a loose concept of "area" for the precisely claimed connection "point," GE's proposed construction adds ambiguity to the claim. Thus, GE's proposed construction should be rejected because it lacks support in the intrinsic evidence and makes the scope of the claim less clear. *Chimie v. PPG Indus., Inc.*, 402 F.3d 1371, 1377 (Fed. Cir. 2005) ("Courts construe claim terms in order to assign a fixed, unambiguous, legally operative meaning to the claim.").

3. GE Ignores the Function of the Claimed "Connection Point"

GE would have the Court look at the words of the claim with no context of what a base frame does or how it works—an approach repeatedly rejected by the Federal Circuit, which has held that it is "entirely proper to consider the functions of an invention in seeking to determine the meaning of particular claim language." *Medrad, Inc. v. MRI Devices Corp.*, 401 F.3d 1313, 1319 (Fed. Cir. 2005). The '055 patent discloses that the shape of the connection point—i.e., the point where the lower and upper parts of the base frame are joined—is important in withstanding forces introduced along the rotor axis into the upper part of the base frame. '055 patent, col. 1:64-2:3. According to the patent, an elongated connection point provides structural-mechanical benefits to withstand these forces. *Id.* at col. 2:20-25. The patent teaches that the shape of the connection point enables the base frame to achieve the stated purpose of the

invention: to create a base frame that "makes it easier to accomplish transport and assembly work . . . **while having sufficient stability**." *Id.* at col. 1:36-40 (emphasis added). Claim 1 reflects this purpose by reciting that the "connection point extends along an essentially horizontal cross-section that has a larger dimension in the direction of the rotor axis than in the direction perpendicular to that." *Id.* at 1:6:59-62.

By changing a "connection" point into an area of "contact," GE's proposal removes any requirement of a "connection" that is larger in the direction of the rotor axis, thereby eliminating the purported structural-mechanical benefits of the specially shaped connection between the two parts of the base frame. GE's brief does not suggest that an elongated "area of contact" can provide the same purported structural benefits as the bolted connection point described in the specification. Indeed, neither the '055 patent nor its prosecution history suggests that mere contact could provide "sufficient stability" to counteract forces acting along the rotor axis, like the disclosed connection point. To the contrary, the patent teaches that the stated purpose of the invention—imparting "sufficient stability" on a two-part base frame—is "achieved" by the specially shaped connection between the parts of the base frame. '055 patent, col. 1:36-45.

B. GE's Attacks on Mitsubishi's Proposed Construction Do Not Withstand Scrutiny

Offering virtually no evidence to support its own construction, GE instead focuses its opening brief on attacking Mitsubishi's proposed construction. Because the plain language of the asserted claims, as well as the specification and prosecution history, show that the claimed connection point is the location where the upper and lower parts are joined together to form the base frame, GE's efforts fall short.

1. No "Mathematical" Point of Connection

GE devotes much of its discussion of the '055 patent to tearing down a straw man, arguing that the claim does not require connection at a "mathematical point." Mitsubishi's proposed construction, however, requires a "connection point," not a "mathematical point." Like the specification and claims of the '055 patent, Mitsubishi's proposed construction uses the word "point" to refer to a particular location, not in a hyper-technical mathematical sense, as GE suggests.

GE's argument that the word "point"—as used throughout the specification, claims, and prosecution history of the patent—will lead to "confusion in the mind of a juror" is unfounded. GE Br. 24. Both Mitsubishi and GE rely on Figure 4, showing the shape of the connection point, in construing this claim term. The specification of the '055 patent specifies that the flange in this figure shows the "**contour of the connection point** 15, which lies in a plane [and] extends parallel to the rotor axis." '055 patent, col. 5:20-23 (emphasis added). The asserted claims require a connection point that "extends along an essentially horizontal cross-section." Thus, the claims and specification of the '055 patent do not adopt or in any way suggest a mathematical definition of "point." Rather than the confusion imagined by GE, the patent makes clear that this term refers to the location where the upper and lower parts of the base frame are joined together. Mitsubishi's construction follows the language of the specification and claims, and thus preserves the clear intended meaning of the claim. Only GE—not the intrinsic evidence or Mitsubishi's construction—suggests that some "mathematical" definition of the word "point" should control.

2. Mitsubishi's Construction Gives Effect to the Claimed "Connection"

The language of claim 1 defines a particular elongated shape for the connection point where the two parts of the base frame are attachably joined. Seeking to escape this requirement,

GE accuses Mitsubishi of importing limitations and misleading the finder of fact. GE Br. 24-25. Mitsubishi's proposed construction, however, directly reflects the claim language, as well as the other intrinsic evidence, without importing limitations into the claim.

Attempting to add ambiguity to the claim, GE proposes that the parts of the base frame need not "be joined 'throughout' the connection point." *Id.* at 25. But the plain language of claim 1 expressly requires a "connection point" and that the two parts of the base frame be "attachably joined" at this connection point. The last limitation of claim 1 refers back to this "connection" point, thereby limiting the horizontal cross-section to the location where the parts of the base frame are joined. Thus, the claim itself requires that "there must be an act of joining . . . the upper and lower parts" at the connection point, contrary to GE's argument (*id.*). Mitsubishi's proposed construction reflects the claim language, referring to the point where the two parts of the base frame are joined together. In so doing, Mitsubishi's proposed construction neither adds nor removes limitations from the claim.

Nor will adopting Mitsubishi's proposed construction confuse the finder of fact. Mitsubishi's construction makes clear that the essentially horizontal cross-section in the last limitation of claim 1 refers to the point where the lower part and the upper part are joined together to form the base frame—the "connection point." Attempting to muddy the waters, GE suggests that this cross-section may refer to any area of contact, whether or not the upper and lower parts are "joined throughout" the area. *Id.* In rewriting claim 1 in this manner, GE robs the "connection point" of all meaning, leaving the finder of fact with no guide to use in analyzing infringement and invalidity.

GE also attempts to draw a distinction between the requirement that the two parts of the base frame be "attachably joined," and Mitsubishi's use of the word "joined" in construing the

claimed connection point. *Id.* Mitsubishi's construction does not affect the requirement that the upper and lower parts of the base frame be "attachably joined," and this language still defines the manner in which these two parts are connected. In construing "connection point"—the location where the two parts are connected—Mitsubishi has used the word "joined" to connote connection of the upper and lower parts of the base frame. This construction neither broadens nor narrows the separate requirement of two parts "attachably joined." Indeed, the parts of the base frame cannot be "attachably joined" without being "joined."

3. Mitsubishi's Proposed Construction Is Consistent with Claim 4

GE erects another straw man to suggest that Mitsubishi's claim construction position would render "claim 4 . . . superfluous." *Id.* at 26. But in building its straw man, GE provides the Court with precisely the reasons why Mitsubishi's claim construction position does **not** render claim 4 superfluous. As GE notes, "[c]laim 4 . . . provides for the upper and lower parts to have flanges that can be clamped together 'in the area of the connection point.'" *Id.* Claim 1—under Mitsubishi's construction or otherwise—does **not** recite such flanges and does not require that such flanges can be "clamped together." Therefore, claim 1 demonstrably does not render claim 4 "superfluous." *See, e.g., Kraft Foods, Inc. v. Int'l Trading Co.*, 203 F.3d 1362, 1368 (Fed. Cir. 2000) ("[T]hat the claims are presumed to differ in scope does not mean that every limitation must be distinguished from its counterpart in another claim, but only that **at least one limitation must differ**." (emphasis added)).

Notably, the specification of the '055 patent, like claim 4, distinguishes the flanges (28, 28') on the upper and lower parts of the base frame from the connection point (15). The specification teaches that the flanges are located "at the connection point," but does not equate the flanges themselves with the connection point. '055 patent, col. 5:34-36. Claim 4 similarly requires that "each of the upper part and the lower parts has a flange that is essentially radial in

relation to the tower axis in the area of the connection point." Thus, the connection point of claim 1 is distinct from the flanges of claim 4, and the recitation of the flanges in claim 4 is not inconsistent with Mitsubishi's construction of the connection point.

GE wraps its "superfluous" attack in the case law, but the law does not support GE. As the Federal Circuit held in *Phillips*, "the presence of a dependent claim that adds a particular limitation gives rise to a presumption that the limitation in question is not present in the independent claim." *Phillips v. AWH Corp.*, 415 F.3d 1303, 1314-15 (Fed. Cir. 2005). This presumption, known as the doctrine of claim differentiation, counsels against "reading an additional limitation from a dependent claim into an independent claim [that] would . . . make that additional limitation superfluous." *Curtiss-Wright*, 438 F.3d at 1380. Thus, for example, in *Versa Corp. v. Ag-Bag Int'l Ltd.*, cited by GE, where a dependent claim specified that the invention "also comprises . . . flutes," claim differentiation created a presumption that such flutes were not required by the independent claim. 392 F.3d 1325, 1329-30 (Fed. Cir. 2004). But where a construction does **not** render a dependent claim superfluous, "claim differentiation" arguments lack merit. *See Kraft Foods*, 203 F.3d at 1368. Thus, where one claim provides a feature and a dependent claim "provide[s] additional specificity as to **how** such [a feature] must occur . . . , [t]here is no overlap" and no claim differentiation problem. *Creo Prods., Inc. v. Presstek, Inc.*, 305 F.3d 1337, 1349-50 (Fed. Cir. 2002). Likewise, where one claim recites a broad category of features and the dependent claim "refers merely to a subset of [those features] . . . and is significantly narrower in scope, the claims are not rendered identical and present no claim differentiation problem." *Sinorgchem Co., Shandong v. Int'l Trade Comm'n*, 511 F.3d 1132, 1140 (Fed. Cir. 2007).

When properly construed, the "connection point" of claim 1 refers to the point where the lower part and the upper part are joined together to form the base frame, but does not require flanges. Claim 4 adds flanges to the recitation of claim 1 and specifies that faces of the flanges can be clamped together, further limiting the scope of the claims. Thus, under the claim differentiation case cited by GE, it would be presumptively improper to construe claim 1 to require the flanges and clamping of claim 4. *See Versa*, 392 F.3d at 1329-30 (presumptively improper to construe claim 1 to require the flutes of claim 2). Mitsubishi's claim construction proposal, however, does not limit claim 1 in any way that would render any limitation of claim 4 superfluous, it does not require flanges, and it does not require clamping. Instead, it reflects the requirement that the two parts of the base frame be joined together at a "connection point."

In sum, the specification and claims of the '055 patent use the joinder between the upper and lower parts of the base frame to demarcate the connection point of the purported invention. One cannot have a "connection point" without a "connection." It is GE's construction, not Mitsubishi's, that would confuse the jury by excising the requirement of "connection" from the claimed "connection point." And because it conflicts with the intrinsic evidence—the language of the claims, the teaching of the specification, and the prosecution history of the '055 patent—GE's proposed construction should be rejected.

III. THE '705 PATENT

Mitsubishi and GE dispute the proper construction of two phrases from asserted claim 1 of the '705 patent, each requiring a particular way of configuring an electrical machine to remain connected to the utility grid. The parties have asked the Court to construe these two phrases in their entirety. In its brief, however, GE paraphrases individual terms plucked from these larger phrases, leaving the relationship between the terms, and therefore the ultimate scope of the claim, unclear.

GE's word-by-word approach to construing the asserted claim leads it to ignore the overarching purpose served by the two "configuring" claim phrases—"configuring the electrical machine such that the electrical machine remains electrically connected to the electric power system" and "configuring the electrical machine and the control system such that the electrical machine remains electrically connected to the electric power system." GE instead asks the Court to focus on the "undetermined period of time" that voltage remains outside of a range, arguing that the extent of a utility grid's voltage fluctuation cannot be known in advance. The claim, however, requires setting up an electrical machine that remains connected to the grid "during and subsequent" to the voltage fluctuation. The intrinsic evidence teaches only one way of configuring an electrical machine to meet this goal—setting up the machine to remain connected to the grid indefinitely, so long as no potentially harmful conditions arise. Thus, in view of the intrinsic evidence, configuring the electrical machine to remain connected for an "undetermined period of time" requires that the electrical machine be set up without time limits placed on the period that the electrical machine remains connected to the electric power system during a voltage fluctuation.

A. "[C]onfiguring the electrical machine such that the electrical machine remains electrically connected to the electric power system during and subsequent to a voltage amplitude of the electric power system operating outside of a predetermined range for an undetermined period of time"

1. GE's Ambiguous Proposed Construction Does Not Define the Scope of the Claim

GE's claim construction proposal invites the Court to abdicate its claim construction duty. "When the parties present a fundamental dispute regarding the scope of a claim term, it is the court's duty to resolve it." *O2 Micro Int'l Ltd. v. Beyond Innovation Tech. Co.*, 521 F.3d 1352, 1362 (Fed. Cir. 2008). After considering the necessary evidence, the court must "assign a fixed, unambiguous, legally operative meaning to the claim." *Liquid Dynamics Corp. v.*

Vaughan Co., 355 F.3d 1361, 1367 (Fed. Cir. 2004). Even when claim terms have a "well-understood definition," the court is obligated to construe the claims if the parties dispute the **scope** of claim coverage. *O2 Micro*, 521 F.3d at 1361.

In *O2 Micro*, the parties disputed the scope of the claim term "only if." *Id.* at 1357. The district court acknowledged the dispute, but ruled that the term needed no construction because it "has a well-understood definition." *Id.* Thus, before the jury, the parties presented conflicting arguments as to the scope of the term. On appeal, the Federal Circuit vacated the jury verdict, explaining that "the district court failed to resolve the parties' dispute because the parties disputed not the **meaning** of the words themselves, but the **scope** that should be encompassed by this claim language." *Id.* As a result of this failure, "the parties' arguments regarding the meaning and legal significance of the 'only if' limitation were improperly submitted to the jury." *Id.* at 1362.

Here, as in *O2 Micro*, the parties dispute the **scope** of claim 1—not simply the meaning of the words "undetermined period of time." Specifically, the parties dispute whether the scope of claim 1 of the '705 patent encompasses placing a limit on the time that the electrical machine remains connected to the utility grid when grid voltage fluctuates. This preliminary legal issue must be answered before addressing the questions of infringement and validity. *See Markman v. Westview Instruments, Inc.*, 52 F.3d 967, 976 (Fed. Cir. 1995) (en banc), *aff'd*, 517 U.S. 370 (1996)); *Nat'l Steel Car, Ltd. v. Canadian Pac. Ry., Ltd.*, 357 F.3d 1319, 1334 (Fed. Cir. 2004).

Although GE's claim construction proposal suggests that "undetermined" be construed as "not determined in advance," it nonetheless does not answer the question of whether configuring a machine by placing a time limit on the period of time the machine remains connected to the utility grid during a voltage fluctuation is within the scope of the claim. Read one way, GE's

construction would cover any system having even the most fleeting capability to ride through a drop in grid voltage, even if the machine was configured to automatically disconnect if the fluctuation lasted longer than a brief predetermined period. Read another way, GE's construction would require a system to be configured to remain connected to the utility grid during and after all voltage drops—no matter how long.

As a result, if GE's claim construction were adopted, the question of claim scope would be left for the jury to decide, contrary to the Federal Circuit's mandate. *See O2 Micro*, 521 F.3d at 1360 ("When the parties raise an actual dispute regarding the proper scope of these claims, the court, not the jury, must resolve that dispute." (citing *Markman*, 52 F.3d at 976)). Accordingly, GE's claim construction proposal should be rejected.

2. The Intrinsic Evidence Does Not Support GE's Construction of "Undetermined Period of Time"

In addition to failing to address the parties' dispute regarding the scope of the claim, GE makes little effort to support its own proposed construction. What argument it does make is based on a misunderstanding of the specification.

a) The "undetermined period of time" refers to the period the machine remains connected during a grid fluctuation

GE's argument in support of its construction for "undetermined period of time" begins with a fundamental error. While GE contends that the "undetermined period of time" refers "to the duration of voltage fluctuations on the electric power grid" (GE Br. 14), the claimed "undetermined period of time" actually refers to the period of time the electrical machine is configured to remain connected to the power system during a voltage fluctuation: "configuring the electrical machine such that the electrical machine remains electrically connected . . . for an undetermined period of time."

If GE were correct that the "undetermined period of time" recited in claim 1 refers only to the duration of voltage fluctuations, this limitation would be superfluous because, as GE points out, voltage fluctuations are inherently of uncertain duration. GE Br. 14; '705 patent, col. 6:34-36. Therefore, the inventors could have omitted the words "undetermined period of time" with no effect on the claim scope. Interpretations that render claim limitations superfluous are disfavored, further demonstrating the impropriety of GE's position. *See Cross Med. Prods., Inc. v. Medtronic Sofamor Danek, Inc.*, 424 F.3d 1293, 1306 (Fed. Cir. 2005) (holding district court erred in construing "operatively" to mean "surgically" because, in the context of the claim, the only way other limitations could be satisfied was through a surgical procedure; therefore, construing "operatively" to mean "surgically" would render this term superfluous); *Innova/Pure Water, Inc. v. Safari Water Filtration Sys., Inc.*, 381 F.3d 1111, 1119 (Fed. Cir. 2004) (rejecting proposed construction of "operatively connected" because it would render the term "operatively" "unnecessary and superfluous as the patentee could have as easily used the term 'connected' alone").

Moreover, GE's construction would render a similarly structured passage of the specification nonsensical. The '705 patent suggests configuring a wind turbine to remain "electrically connected to the grid during and subsequent to a voltage amplitude of the electric power decreasing to approximately zero volts for a predetermined period of time, thereby facilitating zero voltage ride through (ZVRT)." '705 patent, col. 8:37-42. If GE were correct that the "period of time" in this context referred to the duration of a voltage fluctuation, this passage would indicate that the period of time that grid voltage decreases to zero volts during a voltage fluctuation is "predetermined." But GE itself points out that "the precise length of such fluctuations cannot be determined in advance," and that "the length of time of the zero voltage

condition and the characteristics of a grid voltage recovery depend upon a variety of factors known in the art." GE Br. 14. Accordingly, this passage of the specification suggests that the period of time in the "configuring" clauses of claim 1 refers to the configuration of the electrical machine, not the duration of a grid voltage fluctuation.

b) GE cites no evidence showing "undetermined" should be replaced with "not determined in advance"

While GE represents that "undetermined" means "not determined in advance," it cites no evidence in support of that language. GE attempts to draw a distinction between the "predetermined range" of voltage and "undetermined period of time" recited in claim 1. GE Br. 13. The intrinsic evidence, however, does not draw the same distinction between "predetermined" and "undetermined." Indeed, column 8 of the specification suggests the opposite, teaching a method of configuring a generator (118) to remain electrically connected to the electric power system for an "undetermined period of time" by using a minimum "predetermined period of time" for zero-voltage ride through:

> The method also includes configuring generator 118 such that the generator 118 remains electrically connected to the electric power system during and subsequent to a voltage amplitude of the electric power system operating outside of a predetermined range **for an undetermined period of time**. Specifically, such method includes configuring generator 118 such that generator 118 remains electrically connected to the grid during and subsequent to a voltage amplitude of the electric power decreasing to approximately zero volts **for a predetermined period of time** . . . .

'705 patent, col. 8:32-42 (emphases added). Given that the specification does not treat a "predetermined period" and an "undetermined period" as mutually exclusive, one of ordinary skill in the art would look to the exemplary embodiment described in the specification to understand how to configure an electrical machine to remain connected to the utility grid in the manner required by claim 1.

Moreover, to the extent that GE is relying on a dictionary definition of "undetermined" as the opposite of its definition of "predetermined" (i.e., not determined in advance), the Court should take note of other dictionary definitions of "undetermined" that align closely with Mitsubishi's proposed construction. For example, one of the definitions of "undetermined" in *Webster's Third New International Dictionary of the English Language* (1981) is "not bounded by definite limits." (Mit. Resp. App. at 12.) Similarly, *The Chambers Dictionary* (10th ed. 2006) defines "undetermined" as "not limited." (Mit. Resp. App. at 15.) And the *Oxford English Dictionary* (2d ed. 1989) defines "undetermined" as "[n]ot restrained within limits." (Mit. Resp. App. at 18, 20.) Each of these definitions is consistent with Mitsubishi's proposed construction of "no time limits placed on the period the machine remains connected to the electric power system." And to the extent that GE is proposing a different dictionary definition, it simply frames the claim construction dispute that needs to be resolved and highlights the importance of the intrinsic evidence in resolving that dispute. *See O2 Micro*, 521 F.3d at 1361 ("A determination that a claim term . . . has the 'plain and ordinary meaning' may be inadequate when a term has more than one 'ordinary' meaning. . . . In this case, the 'ordinary' meaning of a term does not resolve the parties' dispute, and claim construction requires the court to determine what claim scope is appropriate **in the context of the patents-in-suit**." (emphasis added)).

3. Mitsubishi's Construction Is Supported by the Intrinsic Record

Because the "undetermined period of time" refers to how the machine is configured to remain connected to the power system during a voltage fluctuation, the appropriate construction of "undetermined period of time" must be decided in the greater context of the "configuring" phrase in which it appears. As set forth in Mitsubishi's opening brief, Mitsubishi's construction of this phrase properly looks to the claim language and specification to arrive at the proper interpretation of configuring a machine to remain connected during a voltage fluctuation for an

undetermined period of time: no time limits are placed on the period of time the machine remains connected to the power system during a voltage fluctuation.

a) Mitsubishi's construction does not exclude the preferred embodiment

GE incorrectly argues that Mitsubishi's construction would exclude the '705 patent's preferred embodiment, which permits the electrical machine to disconnect from the grid when it senses dangerous operating conditions, such as excessive current flow or overspeed. GE Br. 15-16; '705 patent, col. 9:43-47, 10:1-4, 11:15-19. Although GE suggests that Mitsubishi's construction would never permit the machine to disconnect from the power grid during a voltage fluctuation, Mitsubishi's construction only requires that no **time** limits be placed on the period of time the machine is configured to remain connected to the grid during a grid fluctuation. Mitsubishi's construction does not prohibit the machine from disconnecting from the utility grid based on non time-based parameters, such as the harmful operating conditions disclosed in the '705 patent. Contrary to GE's assertion, this is entirely consistent with the '705 patent's preferred embodiment.

The '705 patent expressly teaches a wind turbine configured to remain connected to the grid without imposing time limits. When grid voltage drops, the wind turbine described in the specification switches to its low-voltage operating state—state 1—and waits for the grid voltage to return to normal values. '705 patent, col. 10:26-40. The wind turbine stays connected to the grid and remains in state 1 until grid voltage returns to normal, unless the wind turbine detects a harmful condition, such as excessive current flow or rotor speed. *Id.* at col. 9:43-47, 5:26-29, 6:37-55. Nothing in the specification suggests limiting the duration of this operating state based on time. This wind turbine is configured to remain connected for an "undetermined period of time" when grid voltage is outside of a predetermined range.

Similarly, if grid voltage drops to zero volts, the wind turbine described in the specification switches to its zero-voltage operating state—state 3—and waits for the "restoration of grid voltage." *Id.* at col. 11:1-4. The wind turbine stays connected to the grid and remains in operating state 3 until grid voltage is restored, unless the wind turbine detects a harmful condition. Nothing in the specification suggests limiting the duration of this operating state based on time. The zero-voltage operating mode, like the low-voltage operating mode, teaches a configuration that places no time limits on zero-voltage operation, consistent with the claim construction proposed by Mitsubishi.[1]

Thus, the '705 patent teaches a way to configure an electrical machine without placing time limits on the period that the machine may remain connected to the utility grid in case of grid voltage fluctuations, while permitting the machine to disconnect when it senses dangerous (non time-based) operating conditions. One of ordinary skill in the art would understand claim 1 to require configuring a wind turbine to operate in the same way.

b) Mitsubishi's construction does not import a limitation

GE argues that Mitsubishi's proposed construction imports a limitation into the claims (GE Br. 14-15), but Mitsubishi's construction actually follows proper claim construction procedure by interpreting the claim language in light of the specification. As the Federal Circuit has instructed, "the specification aids in ascertaining the scope and meaning of the claims inasmuch as the words of the claims must be based on the description. The specification is, thus,

[1] GE also notes that the '705 patent's goal is "'facilitat[ing] wind turbine generator reliability and wind turbine generator outages by reducing' – not eliminating – 'the number of trips due to grid disturbances." GE Br. 16 (quoting '705 patent, col. 11:27-29). But as explained herein, because Mitsubishi's construction does not prohibit an electrical machine from tripping during a grid disturbance based on parameters other than the length of the disturbance, Mitsubishi's construction does not require the machine to completely eliminate trips during grid disturbances.

the primary basis for construing the claims." *Phillips*, 415 F.3d at 1315 (quoting *Standard Oil Co. v. Am. Cyanamid Co.*, 774 F.2d 448, 452 (Fed. Cir. 1985)).

As discussed above, claim 1 requires configuring the electrical machine to remain connected to the electric power system during voltage fluctuations for an undetermined period of time. The only reading of this claim language that is consistent with the sole embodiment disclosed in the '705 patent requires that no time limits be placed on the period of time the machine remains connected to the power system during a voltage fluctuation. Further, unlike GE's construction, which is no less vague than the claim language itself, Mitsubishi's proposed construction serves the ultimate goal of claim construction by clearly addressing the parties' dispute regarding the claim scope.

c) The '705 patent does not teach placing time limits on the machine's ability to stay connected during voltage fluctuation

Seeking to preserve its ability to argue that the '705 patent discloses configuring an electrical machine by placing time limits on the period it can remain connected during a voltage fluctuation, GE attempts to recast Figure 3 of the '705 patent as teaching exemplary connection limits. In reality, Figure 3 (reproduced below) illustrates nothing more than an example of a drop in grid voltage amplitude—not time limits after which a machine can disconnect from the power system. '705 patent, col. 6:19-37.

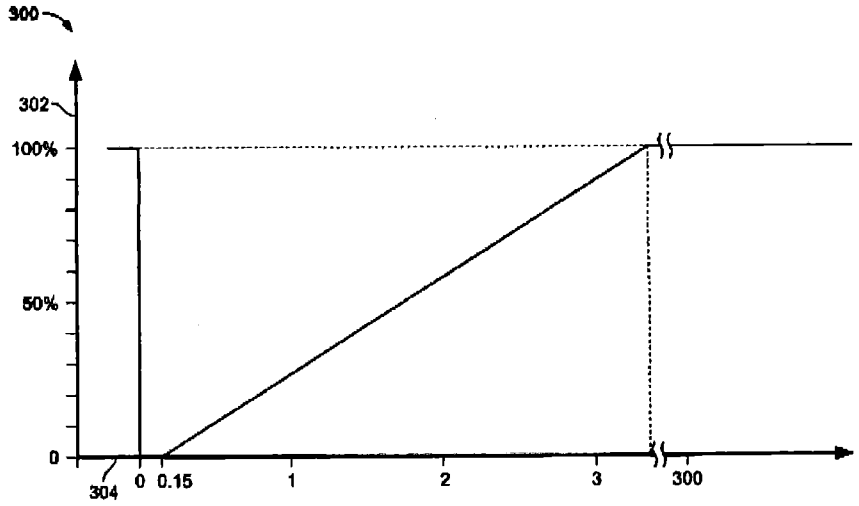


FIG. 3

GE suggests that an electrical generator "configured according to the graph shown in Figure 3 can remain connected to the grid during voltage fluctuations" lasting less than 0.15 seconds, but that "if a fluctuation occurs where the grid voltage drops to zero percent for 0.20 seconds, the electrical generator may trip offline after 0.15 seconds." GE Br. 9. No such suggestion appears in the '705 patent. Although Figure 3 shows a voltage fluctuation that lasts some unspecified time between 3 and 300 seconds, nothing in the '705 patent suggests that the wind turbine described in the sole preferred embodiment would disconnect whenever a voltage fluctuation lasted longer than the one shown in Figure 3.

Furthermore, the '705 patent does not point to Figure 3 when describing how to configure a wind turbine to remain connected to the grid during voltage disturbances. Instead, to understand how to configure an electrical machine in accordance with the '705 patent, one of ordinary skill in the art would look to Figure 5 and columns 8-11 of the patent. These portions of the specification, discussed at length in Mitsubishi's opening claim construction brief, describe the sole method for configuring an electrical machine taught in the specification. This description sets forth how to switch between different wind turbine operating states to allow for

low-voltage and zero-voltage ride through for an undetermined period of time when grid voltage fluctuates. *Id.* at col. 8:47-54.

d) The prosecution history is consistent with Mitsubishi's proposed construction

While GE argues that the prosecution history of the '705 patent reveals that "[t]he Patent Examiner understood that the phrase 'an undetermined period of time' does not require remaining electrically connected to the electric power system for a period with 'no time limits'" (GE Br. 17), its contention is based on a misreading of a prior art reference cited by the Examiner, U.S. Patent Application No. 2004/0145188 ("Janssen"). During prosecution, the Examiner rejected original claim 1 (which at that time did not include the second "configuring" limitation related to zero-voltage ride through) as being obvious over another prior art reference in view of Janssen. (Mit. Resp. App. at 24 [2/17/09 OA at 2].) The Examiner observed that Janssen discloses "that power systems can have power fluctuations outside a range for an undetermined period of time (paragraph 0016) and maintains an electrical machine connected to the system (paragraphs 0027, 0029)." (Mit. Resp. App. at 25 [2/17/09 OA at 3].)

The Examiner's characterization of Janssen is consistent with Mitsubishi's construction. Janssen's Figure 1 shows a voltage fluctuation in which the voltage drops from 100% of rated voltage to 15%. (Mit. Resp. App. at 29 [Janssen at Fig. 1].) Although it then "returns to a higher level" (Mit. Resp. App. at 35 [Janssen ¶ 16]), Janssen does not disclose that the grid voltage returns to its normal operating range at any particular time, contrary to GE's representation (GE Br. 17). (Mit. Resp. App. at 29 [Janssen at Fig. 1].) Instead, Janssen's Figure 1 shows the voltage continuing to operate below 100% indefinitely. (*Id.*) Because Janssen does not disclose disconnecting from the grid at any point during this indefinite operation below 100%, the Examiner could have determined that Janssen discloses configuring a machine by placing no

time limits on the period of time the machine remains connected to the power system while the grid voltage operates outside a predetermined range. This is particularly true given that Janssen's paragraph 29, also cited by the Examiner, discloses that the turbine could disconnect from the power grid if the turbine's rotor reached an overspeed limit (a non time-based condition discussed as a reason for disconnecting from the grid in the '705 patent), rather than because the duration of the voltage fluctuation extended to a particular time limit. (Mit. Resp. App. at 36 [Janssen ¶ 29].) GE therefore has no support for its extrapolation that the Examiner understood '705 patent claim 1 to encompass machines that place time limits on the period of time the machine remains connected during a voltage fluctuation.

4. The Intrinsic Evidence Does Not Support GE's Construction of "A Predetermined Range"

GE begins its argument in support of its construction for the phrase "a predetermined range" out of the larger context of the first "configuring" step in claim 1 of the '705 patent. Relying on dictionary definitions, GE proposes that the meaning of these words is "determined in advance." When placed in the context of GE's proposed construction for the entire "configuring" phrase, however, GE's proposal adds to the ambiguity of the claim.

GE's proposed construction does not specify when the range must be determined. Rather, GE simply places the words "in advance" into the claim without telling the finder of fact when the range must be determined. Indeed, under GE's construction, one could read this phrase to require that the "predetermined range" of the claim need only be determined in advance of a drop in voltage amplitude of the electric power system. Such a reading of the claim would run contrary to the understanding of one having ordinary skill in the art in view of the intrinsic record, and cannot be accepted. *See Phillips*, 415 F.3d at 1313.

Claim 1 of the '705 patent recites a method for "operating an electrical machine." The "configuring" phrases of this claim—the phrases that the parties have presented to the Court for construction—each relate to the manner in which the electric machine is set up. Indeed, the first configuring phrase requires "configuring the electrical machine such that the electrical machine remains electrically connected to the electric power system during and subsequent to a voltage amplitude of the electric power system operating outside of a predetermined range." From this, one of ordinary skill in the art would understand that the predetermined range must be defined when the electric machine is configured. In view of this requirement, Mitsubishi's claim construction suggests that the electrical machine is set up to remain connected to the utility grid when voltage is outside of a "defined range."

GE's proposed construction, on the other hand, introduces the phrase "determined in advance," raising ambiguity as to when the range called for in the claim must be determined. Nothing in the specification or prosecution history suggests substituting the dictionary definitions on which GE relies into the configuring step. Accordingly, as it is not called for by the intrinsic evidence and makes the claim more ambiguous, GE's proposed construction should be rejected.

B. "[C]onfiguring the electrical machine and the control system such that the electrical machine remains electrically connected . . . for the undetermined period of time, thereby facilitating zero voltage ride through (ZRVT) [sic]"

The second "configuring" phrase is similar to the first "configuring" phrase appearing in claim 1, as GE observes, and it should be construed as Mitsubishi proposes for the reasons discussed above and in Mitsubishi's opening brief. GE presents only two new arguments with respect to this phrase.

First, GE observes that this claim phrase ends with the clause "thereby facilitating zero voltage ride through (ZRVT) [sic]," and that Mitsubishi's construction does not parrot this

phrase as GE's does. GE Br. 18-19. Similar to a claim preamble, a "thereby" or "whereby" clause "that merely states the result of the limitations in the claim adds nothing to the patentability or substance of the claim," and is therefore not limiting. *Tex. Instruments Inc. v. U.S. Int'l Trade Comm'n*, 988 F.2d 1165, 1172 (Fed. Cir. 1993) (finding "whereby" clause was not a limitation because it "merely describe[d] the result of arranging the components of the claims in the manner recited in the claims"); *Thermal Dynamics Corp. v. TATRAS, Inc.*, No. 04-152-PB, 2004 WL 4957314, at *6 (D.N.H. Dec. 9, 2004) (finding that "thereby producing a longer wearing electrode" was not a claim limitation, but was merely the result of forming ridges along an electrode, as described in the claim) (Mit. Resp. App. at 45).

Although GE suggests the phrase "thereby facilitating zero voltage ride through" "provides meaningful guidance regarding the scope of the claim" (GE Br. 20), it fails to point to any limitation contained within this "thereby" phrase that is not previously recited in the claim. Indeed, claim 1 requires configuring the machine "such that the electrical machine remains electrically connected to the electric power system during and subsequent to the voltage amplitude of the electric power system decreasing below the predetermined range **including approximately zero volts**." '705 patent, col. 11:60-67 (emphasis added). Thus, the clause "thereby facilitating zero voltage ride through" simply summarizes the result of this step and adds nothing to the claim. Accordingly, it need not be included in the Court's construction of the second "configuring" step.

Second, GE argues that Mitsubishi's proposed construction does not account for the claim language indicating that the "control system" is configured as part of this step. GE expresses concern that if "control system" is omitted from the Court's construction, it could imply that zero-voltage ride through must be achieved without the involvement of the control

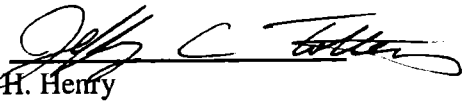
system. GE Br. 19. To narrow the issues before the Court, Mitsubishi agrees to modify its proposed construction of this phrase as follows to indicate that the control system, as well as the electrical machine, is configured as part of this limitation:

> Setting up the electrical machine and the control system such that the machine remains connected to the electric power system during and subsequent to the voltage amplitude decreasing below the defined range, including to approximately zero volts, with no time limits placed on the period of time the machine remains connected to the electric power system when the voltage is below the range.

IV. CONCLUSION

For the foregoing reasons, Mitsubishi respectfully requests that the Court reject the constructions of disputed terms and phrases proposed by GE, and adopt the constructions offered by Mitsubishi.

Respectfully submitted,

By: 

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CERTIFICATE OF SERVICE

I hereby certify that a true and correct copy of the above and foregoing instrument has been served via the Court's ECF system on all known counsel of record in accordance with the Federal Rules of Civil Procedure on this the 20th day of December 2010.

Lane Fletcher